Potential Bioterrorism Agents

Type	Agent	Disease	Syndromes and Clinical Findings	Dissemination	Transmissable Person to Person	Incubation Period	Lethality
Bacterial:	*Bacillus anthracis*	Pulmonary Anthrax	Fever, malaise, cough and mild chest discomfort progresses to severe respiratory distress with dyspnea, diaphoresis, stridor, cyanosis and shock. X-ray shows mediastinal widening.	Inhalation (spores in aerosols)	No (except cutaneous)	Hours to 7 days (most within 2 days)	High
	Yersinia pestis	Pneumonic Plague	High fever, chills, headache, followed by cough (often with hemoptysis) progressing rapidly to dyspnea, stridor, cyanosis and death. GI symptoms are also often present.	Inhalation	High	1-10 days (usually 2-3 days)	High if untreated
	Coxiella burnetii	Q Fever	Fever, cough and pleuritic chest pain.	Inhalation/ Ingestion	Rare	2-14 days (usually 7 days)	Very Low
	Francisella tularensis	Tularemia	Fever, headache, malaise, substernal discomfort, prostration, weight loss and non-productive cough	Inhalation	No	1-21 days (usually 3-5 days)	Moderate if untreated
Viral:	Variola Virus	Smallpox	Begins acutely with malaise, fever, rigors, vomiting, headache and backache. Two to three days later macular lesions appear which quickly progress to popular and then pustular lesions. The lesions develop synchronously and are more abundant on the extremities which helps differentiate it from rash due to varicella	Inhalation	High	7-17 days, (commonly 10-12 days)	Low
	Various viruses such as Lassa, Rift Valley, Hanta, Ebola, Yellow Fever, Dengue, etc.	Hemorrhagic Fevers	Fever, flushing of the face and chest, petechiae, bleeding, edema, hypotension and shock and may include malaise, myalgias, headache, vomiting and diarrhea.	Inhalation/ Contact	Moderate	Days to months	Moderate to High
	VEE virus	Venezuelan Equine Encephalitis	Sudden onset on fever, malaise, headache, myalgias, vomiting, drowsiness, chills, sore throat, and diarrhea. Malaise and fever may last for 1-2 weeks. <1% develop severe encephalitis.	Inhalation	No	1-6 days	Very Low
Toxins:	*Clostridium botulinum* toxin	Botulism	Begins with cranial nerve palsies including ptosis, blurred vision, diplopia, dry mouth and throat, dysphonia, dysphagia and is followed by symmetrical descending flaccid paralysis.	Inhalation/ Ingestion	No	Hours to days	High

	Trichothecene (T-2) Mycotoxins	Mycotoxicosis	Varies according to point of entry. Contact with skin or mucus membrames cause a burning pain, redness, tenderness, blistering, and necrosis. Respiratory exposure results in nasal itching with pain, rhinorhea, sneezing, epistaxis, dyspnea, wheezing, and cough. Gastrointestinal exposure results in nausea, vomiting, crampy abdominal pain, watery or bloody diarrhea. Systemic absorpton results in late toxicity of decreased blood cell counts, and ultimately, bleeding and sepsis.	Inhalation/ Ingestion	No	2-4 hours	Moderate
	Ricin (from Castor bean seeds*Ricinus communis)*	--	Inhalation symptoms include cough, tightness of the chest, dyspnea, nausea and muscle aches progressing to pulmonary edema. Ingestion causes nausea, vomiting, internal bleeding of the stomach and intestines, failure of the liver, spleen and kidneys.	Inhalation/ Ingestion	No	<1-12 hours	High
	Staphylococcal Enterotoxin B	*Staphylococcal aureus* infections	Illness due to poisoning of food or water supplies presents as acute GI illness. Illness due to inhalation leads to fever, headache, myalgias, dyspnea, cough, and ultimately, acute pulmonary edema and respiratory failure	Inhalation/ Ingestion	No	Hours (usually 4-10 hours for GI illness)	<1%